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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/034,502 | 12/27/2001 | Souheil Hakim | 14XZ00124 | 1242 |

23413 7590 06/03/2005

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| EXAMINER |
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PERUNGAVOOR, SATHYANARAYA V

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| ART UNIT | PAPER NUMBER |
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2625

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/034,502 | HAKIM, SOUHEIL | |
| | Examiner | Art Unit | |
| | Sath V. Perungavoor | 2625 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

[1] The response filed on 25 April 2005 has been entered and made of record.

Response to Arguments

[2] Applicant's arguments filed on 25 April 2005 have been fully considered but they are not persuasive.

Objection to the Specification

Summary of Arguments:

Applicant has amended the specification to include the formula for calculating the autocorrelation. Applicant requests the withdrawal of the objection.

Examiner's Response:

Agreed. Examiner withdraws the objection.

Objection to the Claims

Summary of Arguments:

Applicant has cancelled the objected claim and requests the withdrawal of the objection.

Examiner's Response:

Agreed. Examiner withdraws the objection.

Claim Rejections - 35 USC § 112

Summary of Arguments:

Regarding Claims 1 and 6: Applicant has amended the specification to include the formula for calculating the autocorrelation. Applicant requests the withdrawal of the rejection.

Regarding Claims 2 and 7: Applicant submits that the claimed limitations are taught in the specification in such way to convey to one of ordinary skill in the art. Applicant requests the withdrawal of the rejection.

Examiner's Response:

Regarding Claims 1 and 6: Agreed. Examiner withdraws the rejection.

Regarding Claims 2 and 7: Agreed. Examiner withdraws the rejection.

Claim Rejections - 35 USC § 103

Summary of Arguments:

Regarding Claims 1, 3, 5, 6, 8 and 9: Applicant alleges that Siczek, Osaki and Press fail to teach a graduated compression paddle. Applicant further alleges Siczek, Osaki and Press do not teach graduated compression paddle in digital scan mammography.

Regarding Claims 2, 4 and 7: Applicant argues that these claims depend on claim 1 or 6 and the argument presented to the parent claim hold for the dependent claim. Applicant further argues that there is no motivation to combine teachings of Baxes with Siczek, Osaki and Press.

Examiner's Response:

Regarding Claims 1, 3, 5, 6, 8 and 9: Examiner respectfully disagrees. Compression paddles are inherently graduated and are used to coordinate with the x and y axes of the captured image,

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which are also graduated, based on the desired resolution. Since, the claimed limitations do not recite “digital scan mammography”, applicant’s arguments are moot. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Regarding Claims 2, 4 and 7: Examiner respectfully disagrees. Baxes teaches the use of a low pass filter, which is well known to one of ordinary skill in the art. One of ordinary skill would be able to meet the claimed limitations without the teachings of Baxes. Baxes was provided merely to support the Examiner’s assertions with actual evidence (in order to circumvent taking an official notice).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[3] Claims 1, 3, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. (US 5,526,394) in view of Osaki et al. (US 5,163,099) and further in view of Press et al. (NPL document, see PTO-892).

Regarding claim 1, Siczek et al. disclose the detection of a compression paddle and method of acquiring a digital image. Siczek et al. also disclose the subdividing of the acquired

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digital image into rows of N pixels with assigned luminous intensity values (50 on Fig. 2; Col. 7 Lines 29-35).

However, Siczek et al. does not expressly disclose the determining of N autocorrelations of the vector of luminous intensity values, performing the Fourier transform on the autocorrelation vector to obtain the energy frequency spectrum and comparing the energy value at the graduated marks with a threshold value.

Osaki et al. does disclose the detection of markings using the energy frequency spectrum¹ and comparing the energy value with a predetermined threshold value (Col. 2 Lines 54-65).

Press et al. disclose the Wiener-Khinchin theorem, which determines the power spectrum by taking the Fourier transform of the autocorrelation (Equation 12.0.12; Page 566).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Siczek et al. with Osaki et al. and Press et al. to further meet the claim limitations. Since, Osaki et al. disclose the detection of markings through power spectrum calculation and Press et al. disclose an alternative method to calculate the power spectrum. One can easily combine the teachings and perform the functions of Osaki et al. via a new method. Since, Osaki et al.'s invention is not limited to one particular application, it would be applicable to detecting a graduated compression paddle and would be combinable with Siczek et al.'s invention.

¹ The power spectrum is the distribution of the energy of a function in the frequency domain.

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Regarding claim 3, Siczek et al. disclose the method according to claim 1 wherein acquisition of the image is carried out in an automatic mode, in which the adjustment of the exposure parameters is determined from a table of automatic optimization of parameters (AOP) (Col. 9 Lines 13-21).

Regarding claim 6, all limitations are set forth and rejected as per discussion for claim 1.

Regarding claim 8, Osaki et al. disclose a device for automatic detection of a graduated compression capable (Fig. 1). All remaining limitations are set forth and rejected as per discussion for claim 1.

Regarding claim 9, Osaki et al. disclose a computer program product, recorded on a support usable in a processor, containing program code means employing the method according to claim 1 (Col. 4 Lines 61-65). All remaining limitations are set forth and rejected as per discussion for claim 1.

[4] Claims 2, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siczek et al. in view of Osaki et al. and further in view of Press et al. as applied to claim 1 above, and further in view of Baxes (NPL document, see PTO-892).

Regarding claim 2, Siczek et al., Osaki et al. and Press et al. disclose the limitations as set forth in the discussion for claim 1.

However, Siczek et al., Osaki et al. and Press et al. do not disclose the luminous intensity values of each pixel being equal to the mean of the luminous intensity values of pixels associated with the base pixel of the cell.

Baxes does disclose the luminous intensity values of each pixel being equal to the mean of the luminous intensity values of pixels associated with the base pixel of the cell (Page 89; Box filter).

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Siczek et al., Osaki et al. and Press et al. with Baxes to further meet the claim limitations. Box filters are commonly used to remove random noise from an image and could be applied to any digital image.

Regarding claim 4, all limitations are set forth and rejected as per discussion for claim 3.

Regarding claim 7, all limitations are set forth and rejected as per discussion for claims 1 and 2.

Conclusion

[5] **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Contact Information

[6] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Bhavesh Mehta whose telephone number is (571) 272-7453, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sath V. Perungavoor
Art Unit 2625
May 11, 2005

✓
MEHRDAD DASTOURI
PRIMARY EXAMINER

Mehrdad Dastouri